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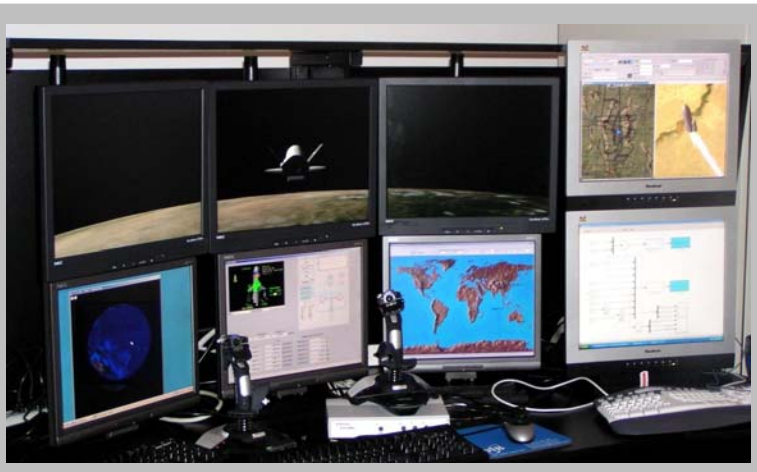
Directorate demonstrates simulation environment

by Melissa Withrow, Air Vehicles Directorate

WRIGHT-PATTERSON AFB, Ohio --- The Air Vehicles Directorate successfully completed the first demonstration of a new simulation environment that will enable engineers to assess reusable military launch systems.

This simulation environment, the Space Access Vehicle, Mission and Operations Simulation (SAVMOS) facility, was developed by directorate engineers and their contractors by integrating existing simulation capabilities into a unique simulation environment for military space vehicle operations.



SAVMOS operation control console with the displays in operation.

During the demonstration, a Space Maneuver Vehicle was launched to low-earth orbit and deployed a payload. The Space Maneuver Vehicle then completed an on-orbit mission re-plan to perform a battle damage assessment of a target area. In addition to simulating these types of missions, the SAVMOS facility can simulate technologies such as rapid flight planning, integrated vehicle health management, and rapid vehicle turn-around. This capability will enable scientists to accurately evaluate new technologies and aerospace vehicles prior to putting valuable resources into their construction.

The SAVMOS facility supports the development of reliable and cost-effective reusable military launch systems (RMLS). One day, RMLS may provide launch-on-demand space access with the ability to turn around quickly between missions, i.e., turn around in hours instead of the months currently required to turn-around reusable launch systems such as the space shuttle.

Developing a reliable flight simulation capability is essential to determining if new technology is viable prior to going to the expense of actually building it. In addition, simulation enables potential end-users to become involved with the initial design phase to help identify system weaknesses early in the design process. **@**